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NOTES AND NEWS.

DR. ALBERT SCHNEIDER is studying the lichen flora of northeastern North America at the Columbia College herbarium.

IN *Garden and Forest* (Nov. 21) Mr. Geo. F. Atkinson discusses the Exoascaceæ of stone fruits, and Dr. B. D. Halsted describes and figures a blight of *Cosmos*.

PROF. L. H. BAILEY completed some months ago the revision of Gray's *Field, Forest, and Garden Botany*, and the book is now in type and ready for issue by the American Book Co.

DR. D. H. CAMPBELL's forthcoming work on the pteridophytes will be brought out by Macmillan & Co., and will be a book of about 400 pages. It will go into the printer's hands about Christmas.

DR. DOUGLAS H. CAMPBELL presented before the B. A. A. S. at its Oxford meeting a paper on the origin of the sexual organs of the pteridophytes, the substance of which will appear in our next issue.

THE SECOND CENTURY of Ule's *Bryotheca Brasiliensis* is now ready for distribution by Dr. V. F. Brotherus of Helsingfors. The price is the same as that of the first century (\$6), of which a few sets still remain unsold.

PROFESSOR C. S. SARGENT in *Garden and Forest* (Oct. 31) describes and figures three hybrid walnut trees growing near Boston. They seem to be hybrids of *Juglans regia* and *Juglans cinerea*, and are remarkably intermediate in character.

THE SCREW PINES of Tropical Africa are described by Mr. A. B. Rendle in *Journal of Botany* (Nov.). They seem to keep to the coast line, five species on the west coast, two of which are new, and three on the east coast, all of which are new.

MR. J. C. WILLIS, in *Jour. Linn. Soc.* (30: 284-298) discusses methods of fertilization in species of *Brodiaea*, *Stanhopea*, *Pimelea*, *Cotyledon*, *Hydrolea*, *Nemophila*, and *Ziziphora*; and also cleistogamy in *Salvia verbenacea*. Two plates illustrate the paper.

WESTERN CHINA continues to yield a surprising harvest of new species, and in *Journal de Botanique* (Sept.) M. A. Franchet continues his descriptions, among which we note six new species of *Corydalis*, a new *Chelidonium*, *Acer*, *Rubus*, and two species of *Saxifraga*.

THE LONG LIST of Scottish Desmidiæ, by John Roy and J. P. Bisset, is brought to a close in the October number of the *Annals of Scottish Natural History*. It is a most valuable compendium, many of the species being critically studied, and quite a number of new species being described.

MR. F. H. KNOWLTON has described (*Bulletin Torr. Bot. Club*, Oct.) a new fossil liverwort from the Yellowstone region. It seems to be questionable whether its relationship is with *Marchantia* or *Preissia*, but the new generic name *Preissites* suggests that the burden of proof is with the latter view.

THE GENUS *Lathyrus* is presented in a paper by Mr. Theodore G. White in the *Torrey Bulletin* (Oct.). In looking over the herbarium material from North and Central America, thirty-three species are recognized, and an artificial key is provided for them. Of these four species are described as new.

IN THE *Torrey Bulletin* for November a number of new plants are described, notably a new *Oxalis*, by Mr. John K. Small, which has been associated with *O. recurva* in the southern states and with *O. stricta* in the northern states; some new and rare *Polygonums* also by Mr. Small; five new species from Florida, by Mr. T. H. Kearney; and two new Bolivian genera by Dr. H. H. Rusby.

THE ANNUAL report of the state botanist of New York for 1893 has just appeared. Considerable additions have been made to the herbarium, numerous notes as to the variations of local plants are recorded, and a number of new species are described. In addition to the descriptions of new fungi, a new *Carex*, which has been known as *C. Emmonsii*, var. *elliptica* Boott, is described by Dr. E. C. Howe as *C. Peckii*.

IN *Bulletin de l'Herbier Boissier* (Sept.) M. C. de Candolle describes some new Asiatic and African *Meliaceæ*, and gives a plate of his new genus *Entandrophragma*, which has been referred by Walwitsch to *Swietenia*. In the same number Prof. R. Chodat presents some extensive studies of certain *Protococcideæ*, illustrating them with eight colored plates. In the same journal (Oct.) M. R. Buser protests against Ascherson's substitution of *Cypripedium* for *Cypripedium*.

SOME LOWER ORGANISMS found in the exudations from deciduous trees have been studied by Dr. W. Krüger (*Hedwigia* 33:) in pure cultures by the gelatine method. He finds two species of *Prototheca*, a new genus of a new type of fungus, corresponding to the simplest *protococcus*-like algæ, and two new species of algæ belonging to the *Pleurococcaceæ*: *Chlorella protothecoides* and *Chlorothecium saccharophilum*. The morphology and physiology of these four species were carefully investigated.

PROF. D. P. PENHALLOW has been studying the anatomy of the wood of North American *Coniferæ* and will shortly publish a classification of these plants based upon these characters. In connection therewith he has prepared a limited number of sets of type sections which he will issue to subscribers. The sections average about 1^{cm} square, are stained, mounted in balsam and provided with printed labels. Each species or variety is represented by the usual three sections, the entire series embracing 264 slides. The price of the complete series is \$120.

THERE APPEARS to be the same difficulty among Germans in writing a text book of botany for beginners as obtains among Americans. A recent review in the *Botanische Zeitung* of Frank's new text book, entitled *Pflanzenkunde für niedere und mittlere Landwirthschaftsschulen und verwandte Unterrichtsanstalten*, severely criticises the arrangement of the matter, while praising its accuracy. The writer closes by saying that it may be serviceable as a review book for academic classes, but that it is not suitable for lower grade schools, as intended by the author (ein Schulbuch ist es nicht).

THE SMILACEÆ of North and Central America are treated in a post-humous paper by Thomas Morong, published in the *Torrey Bulletin* (Oct.). Following Mr. J. G. Baker, the group is regarded as one worthy of distinct family separation from Liliaceæ. In the New World the family is represented by the single genus *Smilax*, which has three species in Canada, sixteen in the United States, thirty-two in Mexico and Central America, and about sixty-seven in South America. Of the seventeen species of North America north of Mexico, a new species from Stone Mountain, Georgia, is described, and another from the Florida swamps.

IN THE *Kew Bulletin* (Oct.), among descriptions of new species from Tropical Africa, will be found the description by Mr. Hemsley of a new genus of Umbelliferae from Mexico, based upon plants collected by Mr. Pringle in July and August, 1894, in the mountains above Oaxaca, and communicated to him by Mr. J. N. Rose. The genus is named *Neogoezia*, being dedicated to Dr. Edmond Goeze of Pomerania, formerly a fellow-student of Mr. Hemsley's. Two other species are referred to the genus, which Mr. Hemsley had heretofore referred to *Oreomyrrhis*, namely *O. gracilipes* and *O. planipetala* of the *Biol. Centr. Amer.* The genus is referred to the *Smyrniæ*. This full notice is given for the benefit of American botanists, who are just now very much interested in the Mexican flora, and who are not in the habit of looking into the *Kew Bulletin* for a description of Mr. Pringle's material.

WING-LIKE APPENDAGES on the petioles of a fossil *Liriodendron* and *Liriophyllum* are figured and discussed by Mr. Arthur Hollick in the *Torrey Bulletin* (November). He regards these appendages as representing former basilar lobes of the leaf, which in *Platanus* become "crowded down the petiole until they finally exist as mere stipules," suggesting the question as to the probable origin of stipules. The idea of "crowding down" seems hardly necessary, as the phyllopodium is to be regarded as an axis which has a tendency to develop wing-like appendages at any portion, notably, of course, in the epipodium. If stipules are branches of the hypopodium their origin has simply to do with the branching of that part of the phyllopodium, without any reference to the method of winging to be found in the other regions.

THE EIGHTH annual report of the Division of Forestry gives evidence of commendable industry in this important economic field. To establish a rational forest policy in a comparatively new and hence wasteful country is a very slow process, for it encounters tremendous opposition from ignorance and inertia. It is necessary to collect data so detailed and accurate that there can be no escape from the logic of the situation. It seems that the Atlantic Coast states show 43 per cent. of forest land, the Gulf states 50 per cent., the Lake states 31 per cent., the Interior states 20 per cent., the Rocky Mountain region 10 per cent., and the Pacific coast 30 per cent. The Division holds in manuscript quite a number of important monographs of botanical interest, which, it is to be hoped, may soon be published. The report also contains a full account of German forest management as shown at the World's Fair.

ANNUAL REPORTS for 1893 from three Experiment Stations are upon our table, which have not before been noticed. In the Maine report some studies by the pot method upon the use of phosphates by cultivated plants made by Walter Balentine are illustrated with twenty-one fine plates. In the same report F. L. Harvey writes upon bean and tomato anthracnose, potato and beet scab, and a new weed for the state (*Plantago Patagonica*, var. *aristata* Gray). In the New York report S. A. Beach treats of the life history of *Plowrightia morbosus*, preventing plum leaf-blight and pear scab, with a partial bibliography of the last topic. In the Wisconsin report F. H. King writes on the distribution of roots in field soils, and E. S. Goff discusses the prevention of apple scab, potato scab and other plant diseases. All these articles are illustrated.

RECENT STATION BULLETINS include three upon the Russian thistle (Ill., no. 35; Iowa, no. 26; and Colo., no. 28), of which the one by the several members of the Iowa Station staff is especially full and interesting. Fungicides and their use in specific diseases receive attention from P. H. Rolfs (Fla., no. 23) and L. H. Pammel (Iowa, no. 24). The cultivation of flowering bulbs in North Carolina as an industry is treated by W. F. Massey (N. C., no. 107). Peach yellows by L. H. Bailey and the prunicolous *Exoascæ* of the United States by Geo. F. Atkinson, both from the Cornell Station (no. 75 and 73 resp.) are two interesting bulletins, more than usually well illustrated. Wild or prickly lettuce is discussed by J. C. Arthur (Ind. no. 52), and the injury to stock from eating squirrel-tail grass by Aven Nelson (Wy., no. 19).

MR. AVEN NELSON, botanist to the Wyoming Experiment Station at Laramie, finds that the squirrel-tail grass (or as it is commonly called there "fox-tail"), *Hordeum jubatum*, is a serious pest to stock. The barbed awns break up into pieces, penetrate the gums, especially alongside the teeth, producing swelling and ultimately suppuration of the gums, and ulceration of the jaw bones and teeth, the latter being so loosened as to drop out. If the animal continues to eat hay containing this grass "the disease progresses till the bony tissue of the jaws is disarranged, the ulcers extend to all parts of the jaw bone and it becomes distorted and enlarged. . . . The marrow-filled interior is changed into great cavities filled with the broken awns. This condition may continue till the cavities extend entirely through the jaw and the tightly packed awns protrude till they may be pulled out with forceps or fingers."